

SOME SOUTH AFRICAN DISEASES

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## I N T R O D U C T I O N .

In the following pages it is the writer's intention to consider briefly and in a somewhat general manner, some points of differences in diseases common to this country and South Africa, and then, more particularly, two special diseases - "Latah", and "Amass", or Kaffir Small-pox. The Thesis might thus be divided into sections:-

### SECTION I.

#### Some points of difference in common diseases:-

Enteric Fever,  
Diphtheria,  
Measles, etc.,  
Predisposing causes to disease.

### SECTION II.

#### "Latah":

Symptomatology,  
Description of Cases,  
Prognosis,  
Etiology, etc.

### SECTION III.

#### "Amass", or Kaffir Small-pox:

History of Outbreak,  
Etiology,  
Description of Cases,  
Complications,  
Prognosis,  
Diagnosis,  
Treatment,  
General Remarks.

### CONCLUSIONS:

In different countries diseases may assume different forms and present to the observer symptoms and signs totally different. Among South African natives, common diseases may undergo such variations as might almost lead one to suppose that these natives suffered from diseases differing entirely from those affecting white races, and indeed, peculiar to themselves. On the other hand, amongst natives, there may be encountered maladies which are unknown, or at least, almost unheard of amongst the civilized whites.

In some cases, this is undoubtedly due to geological and meteorological conditions, but in most instances the difference is more especially due to the different constitutional tendencies, the mode of living and also in some cases to the advent of civilization. In short, if we were to mention the different ways in which the same diseases affect whites and South African natives, one would almost require to devote a special book to this study, but in the vast majority of cases, these variations (or differences) would be in minor details only from those of our recognised text books. Still, to one who has been trained in our methods of examination and diagnosis, such differences present peculiarities/

ities which are not only misleading in diagnosis, but are apt to lead to errors in treatment. One cannot hope in a small treatise such as this to give every difference in which the same diseases vary; but to illustrate this, it might perhaps be better in a broad way to give a few of the more marked instances, and thus show that while the disease is the same, the symptomatology is so different that the diagnosis of disease among natives is a matter of no small difficulty. Among natives, one difficulty is to get a true history of the case. Natives, all the world over, are apt to give a history such as they think will be agreeable to the observer. Even when, with the best intention, they try to give a definite date, they will count such time from the period at which they last changed their place of residence, or from some other fact which leaves very little satisfaction in the mind of an accurate observer. In this way, true detail is almost impossible to obtain. The true age of a patient is rarely obtainable, and past history is almost impossible to gather. Thus, true record cannot be kept and data are lost which might be almost invaluable. Family history, clinical observation, and the benefit of treatment are almost completely lost, and/



and unless one is able almost hourly to have a native under observation, one cannot tell the exact effects of any drug. Still, when one can observe a disease which has undergone no treatment, one may expect to see that disease in its best form.

In enteric fever, the temperature conforms with the usual rise, maintenance and fall, but it is higher, and in some cases the rash - always difficult to detect in dark-skinned races - would be almost entirely unrecognisable or wanting. The history would conform with our home cases; headache and diarrhoea would begin at the same time, and the feeling of illness with the patient is never absent. Again, progress, prognosis and treatment would be similar and even the Widal reaction would be given on the corresponding day of the illness. Relapses, however, are more frequent, not from difference in disease, but from the difficulty in making uneducated natives understand the essential value of a restricted diet. A native, once he recovers from the feeling of illness, imagines himself quite well. No argument will satisfy him that he has passed through a severe illness. He feels himself almost well, and thus he sees no reason why he should be kept on low diet. He/

He will thus satisfy cravings for food and eat articles not only unhealthy, but dangerous to his life.

In most cases the climatic and atmospheric conditions undoubtedly bring about these variations from type; for while later, more will be said about the sanitary conditions of native dwellings, one will defer consideration of this question in the meantime. That climatic and atmospheric conditions are not to be ignored is even better demonstrated in cases of diphtheria. In such cases, the primary infection of the throat is as severe, if not more so, than in the worst cases seen in Great Britain, but the results of similar treatment show great differences. Once one conquers the prejudice against anything "new" (which must always exist among ignorant classes) the benefit of the use of anti-diphtheritic serum makes itself evident. The throat rapidly clears, temperature falls, and in most cases within a few days the patient, who was almost moribund, is convalescent. That this is not the result of personal opinion on the part of the parent or guardian in allowing the patient out of bed too soon is seen markedly among the children of doctors who have been trained at home. Even in those cases, however severe, the patients are/

are allowed liberties which a practitioner at home would never dream of. Convalescence is extremely rapid, and fatal results are almost unknown. In such cases the temperature may reach  $105^{\circ}$  to  $106^{\circ}$ , the dyspnoea may be as great, and indeed, the patient may almost be moribund, and yet the subcutaneous injection of 1500 to 2000 units of the serum will suffice to bring about a happy recovery. While at home, heroic doses of 20,000 units of the same serum would require to be injected into the patient either subcutaneously or intravenously to save life; in South Africa, the doses mentioned above bring about equally happy results. Thus in such cases, race and constitution cannot wholly account for the rapid cure, as both whites and blacks appear to recover equally rapidly. The atmospheric conditions prevailing, probably assist remarkably in those rapid recoveries. Paralysis from the toxæmia of diphtheria are also rare. Could this not be from the purer atmosphere giving a purer infection, and thus more rapid recoveries, under serum treatment?

That climate has some effect on the diagnosis and treatment of disease is not surprising. But still, there are many points which have to be taken into consideration. There are, for instance, the solid/

solid substances in the atmosphere, the diathermancy and the humidity; the light, winds, drainage of the soil and vegetation.

Of the solid substances in the air in South Africa, there might be said to be practically little which is deleterious to health. Those that are present might be divided into organic or inorganic.

Of the former, one might say that algae, pollen and bacteriological elements were accountable in some cases for innocent diseases. Still, there are such things as lime, iron, salt, so frequently in the ground that one can never be positive of the source of disease. Schwann and Ehrenberg gave us information years ago, which might have been taken advantage of, but it remained to Pasteur and Tyndall to show us, in more recent times, what was indicated. Those results, even, required to be recognised by Lister to be put into effect. Till then, suspended matters in the air had been regarded as trivial in importance. But Lister, by showing that such conclusions were false, revolutionized not only our treatment of wounds, but adopted methods which rendered infection preventable. That such is one of the discoveries of the last century is not to be doubted, and therefore, its effects are/

are far reaching. Taking even the primitive results, one has to consider the substances suspended in the atmosphere, which may be divided roughly into septic and aseptic. Pathogenic bacilli, under different conditions, are known to give different results, and their growth depends largely on the medium. Under various temperatures, and different degrees of moisture, their vitality is different. Climate must thus exert in different localities a peculiar influence.

As regards Light, much might be said. But then home sickness counter balances. For instance, one who has been used to the best of light cannot but wish for such always; should then a patient, or even a healthy adult be removed from those conditions, a mental condition might be set up which would act as a powerful predisposing factor.

Diathermancy of the air - i.e., the air which will allow all the heat to pass through it - depends on the watery vapour contained in it. Thus, the more the atmosphere contains, the less heat penetrates towards the earth.

That much depends on the humidity of the atmosphere is a matter of consideration. The presence of watery vapour in the air is always constant. Although/



though it may have trivial variations due to conditions and evaporations - the seasons, time of day, etc.,

All these factors exert their influence on the individual, acting in some cases as predisposing causes of disease, and in other cases as the reverse. Diseases, thus, may show wide variations from similar ailments at home, due in most cases to these conditions.

In measles, again, among native infants the mortality is small, chest complications are rare, and recovery is rapid. Whooping cough is almost unknown, and although pneumonias and bronchopneumonias occasionally occur, the prognosis is not serious among the young, and the results of treatment are wonderfully satisfactory. This, of course, refers to natives who have not undergone the so-called benefit of civilization. Among adult natives who wear European clothes and who imitate the manners of such persons, pneumonias are severe and dangerous illnesses. In the majority of cases, at the end of 6 or 7 days, the temperature falls by crisis and a recovery by lysis is rarely seen. But, as stated before, natives will not take precautions, and once the temperature is normal, nothing will keep/



keep them within doors. Recoveries are thus apt to be slow and incomplete, and a predisposition to future disease is established. This sudden falling temperature at the crisis is difficult to explain, but it is curious that at home, lysis has been more common since influenza became so epidemic.

Among South African natives, the progress of civilization has wrought a change on their constitutions which is proving highly deleterious. To show this, however, it might perhaps be better to give some idea of the different mode of living between the raw or uncivilized native, and his semi-civilized brother. In the uncivilized state, for self-protection, these natives gather into kraals, in which each house is not only a defence in itself, but also all are so situated so as to be a defence for the whole. In this way each family was discrete - a unit by itself - and overcrowding never required to be considered. Cleanliness was carried out with rigid precautions. Out-door life was entirely the means of subsistence, and this healthy life resulted in healthy bodies and minds. In fact one might say these natives led a life of pastoral simplicity, their wants and desires few, and while sanitary precautions perhaps were never studied, yet from very self-defence against the attacks of foes, their villages or kraals were situated on hills, with/

with water supply, of necessity, close, and yet at such distance as not to be easily contaminated. Their clothing was of the simplest, such as their fore-fathers had been used to; their habits of life were primitive. No white man's stores had penetrated their neighbourhood, and perhaps few traders. In this way few articles of diet or luxury to which they had been unaccustomed, disturbed their serenity, and natural conditions still existed. On the other hand, with the so-called civilized native, conditions became vastly altered. As the white man progressed further into the interior, servants were required to perform the manual labours which the white man could not, or would not do. Looking to the white man as their superior in intellect, they naturally began to imitate him and his doings. Where one white man settled from the richness of the land or mineral wealth, another would soon follow, each bringing with him his train of servants. As these in many cases comprised whole families, and as the abodes of the white were permanent, it is not to be wondered at, that after a while native quarters sprang up and that what is now called the location system was started.

The location system must not be confounded with the system of native reserves. In the latter, natives/

ives formed by themselves distinct colonies under protection of the Government, in which certain tracts of land are set aside to their own use, while their pursuits, mode of living, and to a certain extent, ruling, are not interfered with. In this way, they might be considered a happier type of uncivilized natives. They live in their own crude fashion, but have over them an inspector appointed by the Government. Such, then, are native reserves, but very different are what are called locations in the general sense of the word. One finds these locations generally situated outside some village, where the village or municipal authorities have entire control over them. Male and female domestic servants prefer, when possible, to live in their own homes and thus they become crowded into those locations. Such locations are merely certain areas of land set aside for natives. To the authorities, it becomes more a matter of ground rent than of sanitary precaution. Houses, huts or dwellings of any sort were charged by the municipality as a matter of revenue, rather than as a means of preserving the sanitary conditions of the commune as a whole. In such cases, huts were built up, comprised in the majority of cases of old tins, and in/

in such dwellings many cases of over-crowding unfortunately occur. In such cases, few arrangements are made for the removal of effete matter, and no system of sanitary arrangement can be said to be followed out. As a result, the natives in those locations depend upon their natural surroundings as their only precaution. In this way, the bed of a river, which usually flows by the side of such a location, is fouled frequently by those natives, and one heavy rain storm racing down such a dry river bed may bring about the direst consequences. This periodic "flushing" may be beneficial, but it may also bring about most dangerous consequences. A river which perhaps has been dry for over a year may one day rise from 10-20 ft. in height, and as suddenly subside. The foul matter on the bed in this case may be thus washed down with it, and may not only be deleterious, but dangerous to health. South African natives, indeed, are very primitive in their ideas, and where they cannot see the immediate result, they do not consider the relationship of cause and effect at all.

When disease does break out, it is extremely difficult to eradicate. While in the more acute diseases, precautions may be rendered compulsory and their infringement rendered punishable; diseases more chronic in nature, on the other hand, cannot/

cannot be controlled. In locations this is evidenced more markedly than among natives in reserves, or among the natives in an uncivilized condition. Natives in a semi-civilized state, who work for white masters, on imitating them, adopt European dress in which to perform their duties. Having to undergo hard manual labour, a copious perspiration, which saturates their clothing, is produced, and as in no case can natives be persuaded of the necessity of changing such garments, chills are readily brought about. They prefer to retain these garments, and to retire to their own dwellings to sit crowded over a fire in spite of all warnings. This is even more pronounced in cases where the clothing becomes saturated by the drenching showers which so frequently occur in the rainy season. Under such circumstances, a predisposition to chill is naturally set up, and slight frequent pneumonias are started, which it is almost impossible from the above reasons to completely obliterate. These pneumonias, trivial as they may seem, are but however, the starting point of tuberculosis of the lung. It is peculiar that while tuberculosis in whites usually begins in the apex of the lung, tuberculosis among natives commences even more frequently at the base. While among/



among natives acute miliary tuberculosis is more frequent, - tuberculosis cavity formation is very common and begins usually as stated above. The disease in general runs a rapid course and a fatal termination is the usual result. Again, with so many working together, their huts are of necessity over-crowded, filled with smoke, as chimneys are unknown, and also at night every crevice is carefully closed against the cold air, from which natives appear to suffer more keenly than whites. This was shown more particularly while natives were employed as transport drivers during the Anglo-Boer War. If a slight hitch occurred during a night march, the natives would endeavour to start a small fire, and as many as possible would crowd around it. Cold appeared to awake them easily and a short halt appeared to chill them severely. Even during the day-time, it seems impossible to make the native appreciate the benefits of ventilation. Doors and windows are kept closed and no circulation of air is knowingly allowed. From the foul air thus set up, another great predisposing factor is allowed full play. In sleeping in such huts, when the ground is not itself slept on, mats alone intervene and thus also, chills are predisposed to. Again, in many cases among civilized natives, the food is not/



not nourishing, and warm clothing for winter use appears to be unconsidered. Children are thus apt to suffer quite as much from infantile ailments as those at home. Diarrhoea is not uncommon, but among natives is less frequent owing to the majority being breast fed, and thus obtaining the best nutriment possible.

But with civilization has also come drunkenness and other vices, and although legislation has done much to put an end to the liquor traffic, there can be no doubt that there is still much trade done with the natives. Drunkenness in the towns and villages is only too common, and its ill effects are daily evident. Natives who have earned a little money will proceed town-wards, and after spending most of their money on drink, are cast out, to remain the remainder of the cold night by the roadside. Such conditions then, amongst these natives, act as predisposing causes to disease, while in their original primitive condition they would not be subjected to them.

In institutions, too, where sanitary and health arrangements might be considered to be all that could be desired, there can be no doubt that raw undisciplined natives, subjected to mental strain, undergo a loss of health in gaining that knowledge which in many/

many cases they are never able to use. Taking into consideration all these circumstances, it is not surprising that if a source of infection be introduced, the results should be widespread and serious. Tuberculosis in all its forms is far more frequent among the so-called civilized natives as compared with their uncivilized brethren. Can then any one doubt that these predisposing causes have all to do with the result?

It might, on the other hand, be argued that in days gone by, the old law of the survival of the fittest may have made tuberculosis and other constitutional diseases appear less common than at present. Still, one is bound to admit that the advent of civilization has not been an unmixed blessing. At the present period it is only to be stated that there is great necessity for hospitals entirely devoted to natives, in which those natives may receive the best of our treatment, as, in some ways, our civilization has given them its worst vices.

Of those diseases which might be described as South African in nature, two especially call for a few notes. These are "Latah", - to give it the Malay name - and "Amass", or South African Small-pox. The/

The former has never to my knowledge been described as occurring in South Africa, while the latter, though agreeing in many respects with true Variola or Small-pox, is in some respects different. Of those two diseases, it shall be the writer's endeavour to give a fuller account.

"L A T A H".

Under the title "Latah" is described a mental affection, the sufferers from which display a strongly marked susceptibility to the influence of suggestion. If, in such cases, a patient suffering from this disease be suddenly startled in any way, the influence is so strong that he has perforce to endeavour to imitate it. Even example, in many cases, among those suffering from this psychical disease produces a corresponding impulse to imitate.

While "Latah" is the term locally applied in the Malay Peninsula to this disease, it may perhaps be interesting to note that a similar condition appears to be not infrequent among South African natives. As this disease in South Africa appears to have hitherto been unmentioned, it may not be wondered at, that for itself, it has not acquired a new name. Personally, I have, while in South Africa, seen several cases of the mimetic form. Of cases encountered, all appeared to exhibit similar traits in character, and the clinical appearances, while differing in degree, might almost be said to conform to the same type. While under these circumstances it might perhaps be better to give fuller particulars/

particulars of the disease in one or two cases, it will be unnecessary to give such detail in all. They all exhibited the same phenomena under excitement, although to a varying degree. The subjects were all adult male Kaffirs, and appeared under ordinary circumstances in no way different from their fellows. As might be expected, - while all were not employed in the same pursuits, - in no case had their malady appeared to interfere with their mode of living. My attention was first drawn to this disease by the joking carried on at the expense of one of those men.

This man, whose name was Andries, and whose age might be said to be between 50 and 55, was employed as general helper on one of the farms in the Barkly West district in Griqualand West. While he himself never personally complained to me of his malady, I made a point of examining him, at a later period, more particularly. He himself said he felt as well as ever he did, and in no way suffered. On examination, he was found to be a full grown, well developed Kaffir of about 6 ft. in height and of average weight. His muscularity was evident, and he presented no morbid appearances. Unless startled, the general appearance and expression of face/



face in no way presented anything unusual, and his attitude on quiet conversation was perfectly natural.

On examination, on subsequent occasions, into hereditary tendencies, none of his own family appeared to have been similarly afflicted. His social habits were similar to those his neighbours were accustomed to; while he himself led the usual life of the employed native, both at home and at work. He had been engaged all his life in active out-door service, never appeared to have suffered from any unwonted disease, and never had met with any accident. When asked about his malady, he displayed great reticence, but on frequent subsequent examination, he himself could give no origin or reason of such present illness, and again appeared to regard it as nothing unusual. On his employer being consulted, I was informed he had been in service on the farm all his life. He had appeared to have been as other natives till he had almost reached the age of puberty, when he began to suffer from symptoms of the disease he, at the time of examination by myself, presented. As far as could be discovered, he appeared to have developed the symptoms suddenly and in as severe a form as at present/



present shown; but this history one is apt to regard as untrustworthy, as the observer might not have noticed that. He was said to be a good, hard working native, leading a natural life, and free from all external influences. His employer himself had never seen a similar case.

On personal examination, and subsequent observation during over a period of 3 months, he never complained of his alimentary system. His appetite appeared as great as other natives and he himself never made any complaint. He was never ill in any manner, and nothing abnormal could ever be discovered in his abdominal system. The other organs connected with the alimentary system were never found to be enlarged, nor to give pain on palpation. In the haemopoietic system, no lymphatic glands were enlarged; and the spleen and thyroid appeared normal. One regrets that owing to the circumstances of examination, the blood could not microscopically be investigated, and thus nothing definite in this system could be determined, owing to the exigencies of war.

In the circulatory system the only subjective phenomenon was an occasional dyspnoea complained of during an attack, and objectedly, an acceleration of/

of the heart beat during the onset of the malady. Thus I have observed the pulse rate increase from 60 to 120 beats per minute. While with this acceleration, the power of the pulse was diminished in no way, nor did it vary in regularity.

The respiratory and integumentary systems presented no features worthy of notice. The urinary system presented objectively only a deposit of urates. The reproductive system appeared normal, although the man himself was unmarried.

In the nervous system the sensory functions were undisturbed objectively. Sensibility to touch, heat, cold, tickling and pain were normal unless the tests were applied too suddenly or vigorously. The muscular sense was unchanged and sight was, as usual among natives, keen. Indeed, this man was frequently employed by shooting parties from his usefulness in tracking game, his keen sight and also from his wonderful memory in recounting native folk-lore and tales of native wars in which he had participated. His other senses were in no way abnormal.

His organic reflexes were normal, but his left knee jerk was slightly exaggerated, although in no other way were his motor functions disorganised.

His/

His cerebral and mental functions under undisturbed conditions appeared in no way changed. His memory, speech and sleep were natural and undisturbed; but on sudden excitement, the disease exhibited itself. It was thus I was first attracted to this man by practical joking. One of those who knew how this man was afflicted had thrown a cigarette on the ground, and had told him he could have it. Whenever he stooped to lift it, his tormentor cried out, "It is a snake." Andries immediately sprang back, calling out as he did so, "Snake, snake." He exhibited every sign of fear and would not approach till told again to pick up what lay on the ground, as it was a cigarette for his consumption. His tormentor would then again go through a similar performance and the process would be repeated. When tired of this, the instigator of the amusement would hand a box of matches to the "Latah" man and tell him to light the cigarette which he had now picked up. Standing about 30 ft. away from the "Latah" struck man he would, whenever a match was ignited, pretend to blow it out. The influence of example was too strong for Andries, who, following the stimulus of his tormentor blew out the match. In this way, every match was extinguished, although/

although the victim made strenuous efforts to light the cigarette. Once the influence of example was removed, the sufferer easily lit his cigarette. He then departed in perfect quietness and good humour. Of such examples in this patient, numerous instances could be given. He could, for instance, be made to shoot out his arm in front of him and hit a much stronger man, from whom he would have suffered severe punishment. Even in this case, although he knew himself, he would get the worst from the encounter, he had no control over the mimicry.

His cranium and spine presented no appearances of previous accidents and illnesses, and such never appeared to have been met with. The hot sponge test was negative. The locomotory system was normal.

The 2nd and 3rd cases may be taken together, as they present features much alike. Both were transport drivers in the same column. Both were of about the same age - which was from 25 to 30 - and both were well developed Kaffirs. Their history was similar, almost entirely agreeing with Andries as mentioned above, and both were intelligent in every respect. They were, however, younger and exhibited their malady in a much less degree.

In/

In their cases, sudden shouts or other stimuli of the various sensations produced their diseased condition. Sudden and unexpected noises caused them to imitate these sounds, while words, musical sounds, etc., were accurately repeated by them. Both of them exhibited an increased acceleration of the heart beat during the attack, but neither showed any difference in the knee jerks. A sudden touch would make them lose control of themselves, while all the movements of the experimenter were copied without fear of consequence. Even visual stimuli were mimicked in a similar manner.

The fourth case was even less marked, and yet with very sudden impulses, he could be made to follow the example of his tormentor, or to, in some other way, show that the impulse could not be controlled. He would, this, to avoid mimicry, try to escape from his tormentor and thus, unless the impulse was too strong, he usually could do so.

The last case seen in South Africa was one which might almost be said to be so unlike "Latah" as to be different, and yet in this case, the response was rapid, no matter whether applied by any of the senses. He could voluntarily control himself, overcoming the suggestion of the experimenter if/



if he had time to bring his volition into action, but, if the stimulus were applied sufficiently sharply and unexpectedly it had to be responded to. Thus, in his case, knowing who would probably play him a trick, he was prepared and ready, either to ward off the influence, or to avoid his tormentor.

In all these cases the patients were men who were, in other ways, perfectly healthy, sound in constitution and presenting no family history showing heredity.

In all, they had undergone no treatment for their malady, and nothing appeared to have been done in any way. Thus their diet was similar to that of their more natural fellows, and never in any case was a sufferer isolated. Still no mimicry among their companions appears to have arisen, and their methods of living have been unaffected.

These men presented a peculiar hypnotic-like condition varying from a few minutes to a few seconds, or until the influence of suggestion was removed. Consciousness and intellect remained clear; but the mimicry was unwilling, even if the volition was strong, and although every effort was exerted by the subject to resist the influence.

Thus I have been told that they have tried to avoid example. They have known that doing so would be/



be dangerous to themselves or others, and yet they themselves could not interfere. I have seen a man in mimicry catch hold of his own throat so that he almost choked himself, and yet knowing it, he could not avoid it.

All these men were conscious and ashamed of their infirmity, but in no instance was any effort made by the victims to retaliate at any time on those amusing themselves at their expense - and they were frequently the butt of practical jokers of all ages. A paroxysmal form, of momentary duration, in which coprolalia is a prominent feature, has been mentioned in papers of "Latah" among the Malays. In those cases the sufferer gives vent to obscene language, - as far as can be made out - on sudden visual or tactile impulses. In no instance was such a case heard of in South Africa, although I have seen a man persist in using bad language during a severe thrashing, but I have no doubt in that particular case, the man employed the terms used not knowing what they meant. All the above cases were known to have been affected for many years, but no definite duration nor history of predisposing causes could be obtained. No history, also of the course of the disease was obtainable. In most cases this was due to the patient removing/

removing from one district to another in search of employment. He wanted to avoid the fact that he was a sufferer from this disease and to avoid his persecutors.

In Clifford Allbutt's System of Medicine under an article referring to "Latah", the name is supposed to be derived from the Malay word meaning nervous or ticklish.

Manson says, "It occurs more frequently among women, especially young women, than in men. Children are rarely affected. It persists for years and is rarely recovered from. Although the manifestation of high degrees of 'Latah' may be followed by signs of exhaustion and even by swooning, as a rule nothing of the kind occurs. There are no features by which these people can be recognised. Their infirmity is discovered by accident."

"Subsequently, although the fact that a particular individual is 'Latah' soon becomes known to the neighbours, it is not held to disqualify him in any ordinary capacity."

Again, condensing Dr Manson's report of the disease, he says that "Latah" is akin to "Ikota" among Samoyeds, "The Possession of Devils" among the ancient Syrians, and "the Tigretier" or "Boudda" disease/

ease, and the "Zaar" of the Abyssinians, allied to "The Seasons of Revival" in the middle ages in Europe. Such were "The Dancing Frenzies", and "Children's Crusades" of mediaeval Germany, the "Tarantism" of Italy of the 15th and 17th Centuries, the "Preaching Disease" of Sweden, "The Jumpers" of Cornwall, "The Barkers" of the United States, "The Eccentric Sects" of Russia and many similar absurdities which have been and are perpetrated under the name of religion and freedom.

These differences apart, such psychopathies have many points in common. In none of them is there any gross physical lesion. Unless by accident they are not fatal. In all of them, there is an underlying and personal emotional temperament; an implicit belief in certain superstitions; a strongly marked susceptibility to influence of example, and a corresponding impulse to imitate; and probably in some cases an hysterical craving for sympathy, a desire to excite curiosity or wonder, or a wish for a certain kind of personal distinction. Possibly in some cases there may be nothing of the kind, or no consciousness of it; but undoubtedly, hysteria plays a part in the earlier stages."

In those cases, however, with which I have met, hysteria/

hysteria can scarcely be said to play a part. The sufferers of this malady all appear to be avoiding the attraction of their neighbours. In the less marked cases they would endeavour to avoid attracting attention by hurriedly passing, and only a very sudden impulse would cause them to stop. Had, in these cases, a less sudden or startling impulse been given, they would have begun to run away. This I have frequently noticed in all the less marked cases. Again, had the patients been in the same district, (except in the case of the transport drivers) one could have understood how association could have caused this, but each individual was far separated from his fellow sufferer, and no other case appeared known in the neighbourhood.

Although "Latah" appears to be closely allied to "convulsive tic" and akin to the emotional diseases mentioned above, by no means uncommon in barbarous and semi-civilized countries, yet I believe it is a distinct disease. Although generally classed with those religious and social epidemics, which have affected many parts of Europe at various times, "Latah" differs from those disorders. The attacks of this disease are always of sudden onset, produced by shock or suggestion, and are not under the control of/

of the individual. The sufferers in this disease always try to avoid exhibiting their weaknesses and never voluntarily induce the attacks. This is never so in hysteria. Even had there been an element of desiring sympathy, one would have thought that there would be a willingness to have become the subject of even the slightest impulse. Indeed, the only resemblance is the absence of any gross lesion and in the acceleration of the heart's pulse during the period of excitement. It is unfortunate that no case for post-mortem examination occurred.

Native traditions and superstitions are usually supposed to determine the type which the psychical disease will assume in different races. Had this been so, one might have expected that no pure born native in South Africa would have been similarly affected to the natives of the Malay Archipelago and yet, from previous descriptions, the two appear similar. One is apt to account for differences in race giving rise to different symptomatology and yet, in a disease such as this, no such history could be traced. Their religions, their superstitions, their folk-lore and customs were in every way diverse, and yet a disease corresponding in every respect is discovered. Even the native name was different, and although/



although no definite name was applied to the disease, and no medical man appeared to have described it, still the Dutch Settlers always prefix to the name of the sufferer the word "Schreek" meaning fright. Whether this meant that the patient had developed the disease as a result of a sudden fright, or that he was easily startled is uncertain.

In none of the cases mentioned was there any influence of inter-marriage, and no propinquity of races could be discovered. Many Malays will be found at the sea coast, engaged in the occupation of fishermen, but only a very few will be discovered inland. Such as are inland are usually fruit sellers in villages, and no association was ever traced.

Dr Manson refers to this disease as being more common among females than males, and yet it is peculiar that no female cases were met with. Had it been the reverse, one could have understood how children from their mothers could have acquired certain traits of character, but still in the sons, it appears to have developed. When they, as children of mature age, are sent to work, either in the fields, or to tend flocks, one imagines that the disease cannot be one of sex influence.

For though there are many Malays in South Africa, yet/

yet they seldom go beyond the sea coast; and so to those South African natives who have dwelt all their lives, a matter of 800 or so miles from them, imitation is impossible, even although history in every other respect may have been misleading.

What is this disease then? A physical one or mental? Physical, I have endeavoured to show is impossible, mental it must be.

There is no evidence of any sort to show a gross lesion either in the cerebrum or elsewhere. It is in all probability due to some instability of the brain cortical cells and neurons whereby an ingoing stimulus affecting almost any afferent nerve can inhibit the higher volitional centres and cause an activity of some other "sub-conscious" areas. It differs from the hypnotic state in the fact that the areas presiding over consciousness are not affected. The patient remains conscious, but the controlling power is gone. It is a disease of adult life - children are rarely attacked. Arsenic and other drugs (of benefit in Chorea) are of no effect. The disease is not progressive - it is unaccompanied by/

by any signs of mental enfeeblement - so that the cortical cells cannot be so much affected as to be destroyed. It is not therefore a toxic process.

"Latah" must therefore be relegated to that class of psychological disease which has in the near future to be more fully investigated.

The "Douklobors" must in no way be confounded with this disease. In that case men, women and children appear equally affected. They have some definite purpose in view, and all manifest practically the same symptoms. This, indeed, might be said to be one of the old "Seasons of Revival", or religious epidemics. In no way can they be said to be cases of "Latah", because had they been, although they might not have been persuaded, from mimicry, they must perforce have had to obey and thus compelled to return home. Yet, in spite of hardships and suffering, they did not do so.

"AMASS", OR KAFFIR SMALLPOX.

During four of the spring and winter months of 1902, I had in South Africa, an opportunity of investigating an outbreak of Smallpox among natives, or to give it the local term - "Amass". As this disease varies in several respects from the smallpox occurring in whites, it might be interesting to give an account of the epidemic. In the majority of cases, the disease presented simply a modified type, but the manner in which natives were affected differed greatly from the usual description. This naturally, especially if a case had never previously been met with, made the diagnosis in many cases very difficult.

It might perhaps, be better to give at the outset, a general history of the outbreak.

HISTORY OF THE EPIDEMIC:

On the first of March I was called to see a patient who, though not in the employment of the Cape Government Railway, was living in the barracks of that Company with a brother, previous to seeking work. Although he had been complaining for 10-12 days/

days before the date on which I saw him, he had never thought of getting advice, and his friends did not desire it to be known he was living, against regulations, in the barracks.

His history was, that about 19 days previous, he had left the district of Bedford in Cape Colony and walked about 200 miles to the Beaufort West depot. About 12 days later, he had begun to feel out of sorts, but by that time, fortunately, he had reached his destination. On enquiry, it was found that there were numbers of natives in the Bedford location suffering from the same disease, but at that time no precautions appeared to have been taken in that locality. On examination, he presented a well-marked rash of the seventh day, but was feeling so well that even then, he would not have reported unwell, and my attention was only drawn to him during a sanitary inspection of the Railway Camp. As there was no hospital of any kind in Beaufort West, I had him, along with contacts, removed to an open vacant piece of ground about two miles away, and there placed him in a bell-tent. As it was difficult to discover who had been in contact with the diseased native, owing to all prevaricating, a selection had to be made at random. Vaccination of all those living in the barracks was rapidly carried out, and/



and communication with the native reserve (which was about a mile distant) was restricted as far as possible. Disinfection of the barracks was thoroughly gone through, at first by sulphur vapour and weak carbolic lotion; and about 4 days after, on arrival of formalin from Cape Town, with this, and also by means of an "alformant" lamp. The huts were then white-washed and exposed freely to sunlight. The railway barracks were entirely closed after the second case broke out. When the first patient had been almost 3 weeks in hospital, a fresh case broke out in the Railway camp - one of the detained contacts having also by this time become affected. As no communication had taken place between the hospital and the camp, I considered this incubation too long for infection from the first case. I therefore advised the Resident Magistrate of the Colonial Civil Service, under whose jurisdiction the native reserve was, to make enquiries to see if any cases had occurred in the native location. On examination, it was found that as many as four natives were lying sick. Under those circumstances, we had them removed to an old disused leper hospital, which had previously been cleaned out in case of emergency.

The contacts, about 60 in all, from the Railway Camp and those from the location were speedily under observation/

observation, and all communication with the native reserve was cut off. This part of the village was fortunately well separated from the residential quarter, and the latter was further safeguarded by the fact that the country at that time being under martial law, military sentries were placed all round the location to prevent ingress to the town. On the other hand, the native servants had to come into their daily occupations from their own homes, but before permitting this, rigid regulations of showing recent vaccination certificates were adopted.

Even this, however, was scarcely satisfactory, as natives would not leave the location and would not come to be vaccinated. Thus, a house to house visitation had to be organized. Even then, they would endeavour to avoid vaccination by concealing themselves. During this house to house visitation, 21 more cases were discovered, and daily inspection evidenced more.

Removal of the cases and contacts always took place, but, as the number of these individuals was getting alarmingly great, marquees and other tents had to be raised.

Vaccination was finally completely carried out, but cases kept occurring among the contacts, and individual/

individual cases would occasionally crop up so that it was fully 4 months before the disease was completely eradicated. Considering that in the village only three individuals were affected, the results of those precautions must be considered highly satisfactory, as this epidemic usually lasts for a much longer period.

Among natives, when one feels himself sickening of a disease such as this, and knowing he will be put under restraint, he frequently endeavours to escape into the country: but this only occurred in a few cases and with no ill results. On the other hand, several cases occurred among the Army Transport natives and these, being on trek, spread the disease. Thus, 5 cases broke out at Fraserburg Road Station about 60 miles distant, but prompt precautionary measures were successful. Still this involved much more labour, as all in the districts had to be vaccinated.

In all, 53 natives were affected with the disease in Beaufort West. Fully 9000 vaccinations were carried out by the doctors of the village with results tendered below.

One great disadvantage in native epidemics is to impress on them the necessity for cleanliness. Even personal cleanliness cannot be obtained, and the huts/

huts are usually filthy. As almost every native has a dog, or breeds pigs and fowls, the litter is at times indescribable.

#### ETIOLOGY:

That smallpox has been known to occur in all lands from time immemorial is an undoubted fact. The oldest known medical writers have described diseases which in every way appear to conform with our modern disease, although perhaps not accurately - but still, considering their crude methods in those days, the malady is wonderfully similar. It was not, however, until the 17th Century that the first excellent description was given by Sydenham.

It might be said that vaccination has done much to lessen the frequency of the disease, and also to render it less fatal, but still among all native tribes, no matter in what part of the world, it is stated by Welch to be extremely fatal, that the negro is especially susceptible and the mortality greater - about 42 per cent. in the black, against 29 per cent. in the white.

Of the Etiology of the disease in South Africa, I have been able to find few or no traces. In talking with Colonials whose ancestors have lived in the colony/

Colony for one and a half to two centuries, the disease is little thought of. They appear to regard it as occurring so regularly (and have been told so by their parents) that they look on it as of little account. Natives have made similar statements to me, and they say that they have always had one or two cases in their locations. If this be true, the disease, although always present, at certain times breaks out epidemically. What the reason for this epidemic may be is uncertain, but still it appears to occur in all parts of the Colony at the same time. Vaccination at ordinary times, of all previously unvaccinated in Cape Colony, is carried out by the district surgeons every six months, and therefore it cannot be due to want of vaccination increasing the ratio of the unvaccinated.

The age at which natives are affected by "Amass" appears to be similar in all epidemics. All ages are equally affected, and cases occur equally among males and females.

That the disease is very contagious is undoubted, as can be seen from the rapidity with which the cases occurred. Infection may be carried in many ways, but it is still an open question, even yet in our "home" smallpox, whether the contagion can be spread by means of the atmosphere. "Amass", like Variola/



Variola, passes successively through macular, papular, vesicular and pustular stages. The pustules dry up and form scabs, which, dropping off, leave distinct pits in the skin. It might perhaps be better to give a short clinical history of several of the more typical cases to show the similarity between "Amass" and Variola.

#### CLINICAL HISTORY:

Clifford, adult male Kaffir of well developed appearance and good muscularity was removed with the first case as a contact. His age was 26 years, and he was occupied as an engine cleaner. He had been nursing his brother for over 9 days. When the incubation period reached the 11th day, i.e., on 3rd day after admission, he complained of severe headache, and on examination in the morning, he was found to have a temperature of  $103^{\circ}$ . This appears to have been ushered in by a feeling of coldness during the previous night. No history of rigor could be obtained. In the evening, his temperature was  $102^{\circ}$ , and he was suffering from severe attacks of vomiting. On this account he was removed to a separate tent and kept under observation. None of the other systems appeared on examination to be affected, unless as resulting from the fever - hurried breathing/

breathing and acceleration of the pulse. On the second day his temperature was still high and he was complaining very severely of pains in his head and back about the lumbar region: (for remaining temperature see Charts.) Vomiting had, however, ceased. No eruption could be seen either on the forehead or on the body, but a distinctly "shotty" feeling could be palpated on the forehead. This symptom, I regard as of the utmost importance in diagnosing early smallpox. It is stated that this peculiarity is always noticed on the appearance of the rash, but I maintain that it exists frequently even as long as 48 hours before the eruption appears. The importance of this is self-evident, for during epidemics of smallpox, a patient with the above symptoms and signs could be removed to an isolation camp, apart from other apparently healthy contacts, before the eruption appears. There is doubt whether there is contagion before the rash develops, but, as in measles, it is possible it may be, and therefore it is better to err on the safe side. In those cases which I had an early opportunity of examining, this "shotty" feeling was, in 70 per cent. of the cases, always present. On the 4th day, the patient's face had become very markedly swollen and there was much injection of the eyes, while the expression/

pression was languid. On this day, distinct macules could be seen on the forehead, but their colouration was masked by his dark skin. His constitutional symptoms began to subside. On the 5th day, the rash had extended over the trunk and arms, and a few macules appeared on the thighs. Those on the back were especially well marked. They disappeared on stretching the skin and also on pressure. The macular stage usually lasted about 24 hours. On the 6th day, the papules were distinct all over the body, and those on the forehead had lost their conical appearance, showing that papular formation was commencing. The macules were perhaps usually most typically seen on the soles of the feet which, in natives, are lighter in colour. The patients at this stage usually felt so well and so free from pain that they could with difficulty be restrained from proceeding into the open air.

During the next day or two, the papule became transformed into a vesicle. This gradually increased in size till the usual blister-like appearance was quite marked. The containing fluid underneath the skin appeared, naturally, of a brownish tinge, although a faint blue showed through. In all appearances, the vesicular stage of "Amass" corresponds in every way with smallpox at home, where I have had opportunities of observing it. The/

The vesicles were all firm to the touch and usually umbilicated. Those on the forehead usually were beginning to become clouded in appearance at this time. On pricking the vesicles, a clear serous fluid escaped. At this stage, the patients would never stay under cover and, being short handed, we had no means of enforcing any regulation. No constitutional symptoms usually developed. On the morning of the 7th day, there was distinct pustular formation on the forehead. There was no distinct rise in temperature however. The patient's face became slightly oedematous, and a slight scarlet colour showed through. The patient also felt acute itching and could not be kept from scratching to allay the irritation. The fluid exuding was distinctly straw coloured and sticky. This patient Clifford, at this stage, began to suffer from slight laryngitis, as was shown by the voice becoming husky. The mucous membrane of the throat showed slight congestion and one or two papules.

During the next few days, the vesicles all over the body rapidly underwent this change. Those pustules on the back and about the buttocks were liable to rupture owing to movements of the patient. The others did not of themselves appear to rupture. Dessication rapidly commenced, and the crust gradually/

ally dropped off. This process usually lasted from about 10 to 20 days. On the soles of the feet no crusts formed, owing to the thickness of the skin, and the dessicated bodies frequently had to be dissected out for the same reason.

On the removal of the crust, distinct pitting was evident on all parts of the body, and although in some cases the skin appeared rather raised, no pigmentation occurred, and the markings on the patient's skin simply showed as a lighter colour than the rest.

From this description, it will be seen that the disease is very much similar to Variola. Indeed, one might say the only difference lay in the less marked constitutional symptoms and in the temperature (vide charts.)

#### CASE 2:

Jan, age 6 years, native boy, well developed and of good constitution. His mother was removed to hospital on the 10th April 1902, suffering from well marked smallpox of about 4 days' eruption. Ten days later, the boy began to complain, as in the former case, of pains in the back and of headache. He had at one time severe epistaxis, but otherwise, the course of the disease was similar, although of slightly/



slightly longer duration, especially with a longer secondary or suppurative fever. He suffered severely also from conjunctivitis and blepharitis, but this was easily remedied under treatment.

CASE 3:

Sarah, age 35 years, stout native woman, removed on the 30th April to hospital suffering from smallpox - the eruption being of the 2nd day. She had not been vaccinated owing to having remained concealed in the location. She was advanced in pregnancy and expected to be confined at any moment. We had doubts as to whether we should remove this woman or not, owing to her condition, but deemed it advisable to do so. She was confined in the following morning of a healthy male child, and passed through the illness in the same course as the others, being convalescent quite as soon. It might here be remarked, that native women are remarkably easily confined, and almost in every case are hard at work the following day. The child was voluntarily nursed by another woman who had been successfully vaccinated, and who had never been in contact with any of the patients. The child was vaccinated immediately and successfully, and as far as at present known, has escaped the disease.

CASE 4:

Joe Hendrick, age 43 years, was one of the contacts early removed. He was immediately vaccinated, but symptoms of the disease manifested themselves 4 days after admission. He had been however, unknown to us - he informed us afterwards - a previous contact, and had not reported. He was a weakly looking man of below average height was was of slight muscularity. He complained very markedly of severe frontal headache. The pains in his back were frequently agonising, and his temperature rapidly rose to  $104^{\circ}$ . In his case, there was a distinct rigor. These pains persisted during the period of invasion and during the same time he frequently vomited. He also had one or two minor attacks of bleeding from the nose, and a suspicion from the mouth. The rash developed on the 3rd day after attack. His face became badly swollen and congestion was evident. Oedema was also slightly present at this stage, and his eyes were almost closed. Vesicles rapidly formed, which were of large size and quickly coalesced, and almost immediately the confluence was exceptionally well marked all over the body and, as was only natural, the blisters were irregularly formed and of various sizes. His temperature even on papular formation never fell below  $101.6^{\circ}$ , but on/

on the pustular formation starting it rapidly rose to  $103.8^{\circ}$ .

His mouth showed one well marked vesicle on the back of the tongue, 7 or 8 on the palate and one on each tonsil. The throat and palate were greatly inflamed, and the congestion was especially well marked round the pustules.

In his case, up till the present time, he had offered no complaints, and nothing abnormal with any of his organs could be discovered, except a slight trace of albumen in the urine. He complained severely of itching, but nothing appeared to relieve this and many of the pustules became ruptured and infected with septic matter. He began to complain at the same time of severe sharp pain in his right side, and developed a sharp suppressed cough. His breathing was very hurried, reaching 36 per minute. He was bathed in a profuse perspiration. His alae nasi were moving with respiration and he showed every expression of suffering and pain. The pustules were almost impossible to keep clean and a very foetid odour was given off. On examination of his lungs, a well marked lobar pneumonia was found to have formed. During the day, the patient rapidly became delirious and at night the temperature was  $104.8^{\circ}$ , his respirations were 46<sup>0</sup>. His pulse/

pulse was 130<sup>0</sup> per minute and very feeble. In spite of all treatment, stimulants, etc., the patient died the following morning at 6 a.m.

On post mortem examination, the internal organs were all found to be intensely congested. The heart was of normal size, and only showed slight anti-mortem clotting in the right auricle. The right lung showed well marked red hepatization, but no sign of sepsis. The left lung simply showed congestion. The larynx was congested, slightly oedematous, and there was one vesicular patch on it. The liver and spleen showed intense congestion; the kidneys showed cloudy swelling.

The alimentary system showed only congestion; there was no swelling of the Peyer's patches, nor was there any other evidence of smallpox. The superficial ulcers on the body simply exhibited the appearances of septic sores. The discharge could not, owing to circumstances, be examined. The brain and membranes merely showed marked injection. This was the only opportunity of conducting a post-mortem examination of a case of "Amass". This case was not one of the haemorrhagic type, but appeared distinctly confluent.

CASES 5, 6, 7;

These three cases may be taken together, as they have one point in common. In all of them there had been previous attacks of "Amass". Their ages ranged between 27 and 45. As far as could be made out, one had been attacked 8 years previously and the other two about 18 and 21 years before. Previous to present attack, they all showed distinct pitting over the face, neck and body - the results of the former illness. In their cases, the disease ran its course as described in Case 1. The patients in no way appeared to differ; their temperatures were as high, their rash was as marked, and their convalescence no quicker.

From those cases it will be seen that they conformed with our discrete and confluent forms of Variola Vera. No true cases of the haemorrhagic type were ever met with, and none were ever heard of.

COMPLICATIONS:

Of the 53 cases, one might practically tabulate the complications into three groups, although others occur:-

1. These with Broncho-pneumonia.
2.       "       "   Laryngitis.
3.       "       "   Eye disease.

Of/



Of the first, the cases were only too frequent, but were never severe. The pneumonic areas soon <sup>the</sup> cleared and were in all cases result of undue exposure of the patients by themselves when not under observation of the attendants. Natives, however, as shown above, are subject to such complaints and the marvellous thing is that such cases were not more frequent.

2. Laryngitis: While in most cases the eruption was visible on the mucous membrane of the mouth and throat, laryngitis only rarely occurred. Oedema glottidis was never evidenced except in very severe cases, of which there were happily few. No cases of sloughing of throat membranes were observed.

3. Of the cases with eye symptoms, one might say that these occurred only too frequently, especially among those of immature age. In such individuals, the eyelids early became closed and fixed together. This was in many cases due to the dust and sand flying about setting up a primary inflammation, which rapidly became worse owing to the illness of the patient. Conjunctivitis was, however, seldom severe: keratitis was never seen.

Of the less frequent complications, the fatal case/

case (No. 4) with pneumonia was the only one which occurred. This form is extremely rare even in the "home" cases and one feels compelled to state that it is more accidental than incidental.

No other complications were ever witnessed. Cerebral symptoms never, as a routine practice, were evidenced, and when present it was as the result of sudden high fever. No parotitis, convulsions in infants, nor digestive phenomena were ever present.

#### PROGNOSIS:

In "Amass", the prognosis is excellent. In 53 cases, one alone proved fatal, that is, slightly less than .5%. That such a condition should always prevail is unlikely, and yet compared with the usual mortality, it is so marvellously small that one wonders whether or not the diagnosis were correct. Judging, however, from other epidemics in different parts of the Colony, one is driven to the conclusion that the mortality in this disease is considerably less than in other countries. If this were the result of vaccination, one would expect that those who had been previously vaccinated would be more exempt from the disease, but this is not so - but of this, more later.

In/

In the prognosis one must of course consider the constitutional conditions, and social habits and surroundings of the patient. Those addicted to drink, or susceptible to lung disease, run a much less hopeful chance than others, who have led healthy lives and are of sound constitution.

#### DIAGNOSIS:

As stated before, this disease to the uninitiated is difficult of diagnosis, especially if there be no knowledge of other cases occurring in the neighbourhood. Among medical men from the old country, this was especially evidenced in the various opinions expressed by them, even those, too, who had seen true Variola. In an epidemic, on the other hand, where one is on the watch for cases of smallpox, one may in many cases be deceived. Yet, should one be doubtful in diagnosis, one never wishes to cause anxiety to those in contact, and thus one is apt to delay too long. Still, should one have made an error in diagnosis in stating smallpox where no such disease existed, one brings on oneself ridicule from all quarters. In many cases such are the reasons for early failure in notifying the disease, although this single case may not only be/

be the starting point of danger to a household, but even to a community. It is, however, only in the early stages of the disease that the diagnosis is difficult; for, once the disease has reached the vesicular or pustular stage in a typical case, no one should fail to recognize it. Still, in a complicated or an atypical case, one is easily led astray, more especially if the diagnostician be not thinking of the disease.

Though the early symptoms of "Amass" so much resemble other epidemic and infectious fevers, as referred to above, I lay great stress on the appearance in this disease of a "shotty" feeling below the skin of the forehead, even before the eruption has appeared. In a first case in a new district, this might be unthought of, more especially if other diseases similar in symptomatology were present: but in cases where headache, lumbar pain, fever and vomiting exist, careful enquiry should be made as to how long the patient has been staying in the district. I do not go the length of saying that every case with this feeling on the forehead must be isolated, but it ought to make one be on a careful and constant outlook; and on a rash appearing, I would almost immediately isolate, even if only a macular eruption.

During/

During a prevalent epidemic, one might almost venture a diagnosis of "Amass" on having this feeling under the fingers, and such a patient should always be carefully watched for the appearance of the first signs of an eruption. If such an individual amidst an epidemic of "Amass" be known not to have recently been vaccinated, the suspicion might almost be said to become a certainty. Among natives of any country, where rapid febrile disorders arise, and are equally rapidly recovered from, one hesitates at first to make the diagnosis, and one must perforce, await the first signs indicative of the disease. If the early symptoms mentioned above be present, one however, should always be on the outlook.

#### DIFFERENTIAL DIAGNOSIS:

##### 1. Varicella:

In this disease, the constitutional symptoms are less marked, and usually there are no complaints unless of "feeling unwell". The patient in varicella rapidly turns ill, and the rash almost develops immediately. The eruption in varicella appears rapidly and almost instantaneously all over the body, and thus one rarely sees two different stages on extreme/



treme parts of the body. During the vesicular stage of Varicella, it is possible, though rather rare, that umbilication may occur, but this is only due to the escape of the contents of the vesicle, and thus a false umbilication is produced. This escape of the fluid in Varicella is due to the thinness of the wall, and so even the slightest pressure may cause the contents to escape, and the vesicle collapses at once, showing that in Varicella no partitions divide the vesicle, as in "Amass". The temperature in Varicella usually remains fairly constant in height, and no secondary temperature occurs.

## 2. Impetigo Contagiosa:

In my early acquaintance with the disease "Amass", I was once misled by this disease. As natives with rash will frequently be out of doors when they ought to be in bed, I was astonished to see a man walk into my surgery with what at first appearance seemed to be an advanced stage of smallpox. On closer examination, however, the disease was readily distinguished by the crusts of the pustular stage and the true vesicular stage occurring together on the same parts of the body. The eruption further differed in having no definite distribution/

ution, and the vesicles as in Impetigo were easily ruptured.

3. Scarlet Fever among natives is rare and one can seldom distinguish a rash, and the medical man is more frequently guided by the general febrile symptoms and by the tonsillar conditions. In Scarlet Fever, however, there are no symptoms such as pain in the back, and the tongue in "Amass" never shows a true scarlatinal condition.

4. Measles, especially among children, is also difficult, in the early stages, to differentiate; more especially is this the case, as chest complaints are so prevalent among natives. The eruption of Measles, however, has no "shotty" feeling, while "Koplik" spots are present in measles.

5. Cerebro Spinal Meningitis is in some ways similar to "Amass", but more especially in symptoms. Here, however, the meningitic symptoms cause head retraction and other signs, which render the disease unmistakable. In "Amass", no head retraction ever takes place and delirium seldom occurs.

Except for those diseases, I have seen no other diseases in Cape Colony so resemble "Amass" as to render the diagnosis impossible - but this may be/

be due to my inexperience. Various eruptions have, and will, occur, but, taking all into consideration, the differential diagnosis from those diseases mentioned is not difficult.

#### TREATMENT:

In the treatment of "Amass", one might state that symptoms call more for attention than the disease itself. Thus, no specific remedy has been discovered which can cure smallpox in any form, once the invasion is evident. No remedy indeed, even though in one case it may do good, can be said to be good in all. In the majority of cases of "Amass" the patient is so little inconvenienced, and shows so few signs of serious disease, that medication is not in any way indicated, and, as in many other febrile diseases, the malady runs its course. One simply requires a little nursing such as will attend to the personal comfort of the patient. Among those patients who require little treatment are those who have been previously vaccinated, and more especially if recently so.

On the other hand, the treatment in the more severe cases has to be prompt and effective. But still, the necessities requiring such treatment are usually symptomatic, and quite apart from the disease itself.

Whether/

Whether vaccination during the period of incubation does any good in alleviating the disease, is uncertain. In the cases of those who were removed as contacts, of whom there were 215, 10 cases of "Amass" occurred. All these were vaccinated at the time of the discovery of the disease, and yet "Amass" became typically evident. That is, a little below 5% developed the disease. The only question was whether these had been exposed to previous contact or not, and of this one cannot express a definite opinion, as a native will only too frequently prevaricate to please his questioner. Still, in those who had been vaccinated, the disease which appeared was quite as severe in eruption, but exhibited a quicker convalescence.

Once a person is known to be suffering from "Amass", the same treatment which prevails at home for Smallpox should be carried out. Attention must in the first place, be paid to his hygienic surroundings. He should be put in a room to which much light and free ventilation are given, and one in which no articles but those which can subsequently be destroyed are placed. Unfortunately, in South Africa, it is impossible to keep the temperature of the room uniform, owing to the great variations between the temperature of night and day, but in this epidemic/

epidemic everything possible was done to keep the temperature as low as possible. During the winter in South Africa, the temperature may be about 80°-90° during day time, and may fall below freezing point at night. Under such circumstances, especially where the patients had to be accommodated in tents, the difficulty could not be overcome. Thus, a patient with high fever might have sufficient clothing at 4 p.m., but at 7 p.m., he would be severely chilled. Unless one has been in the tropics, this may be scarcely creditable, but it is a well known fact.

Unfortunately, the water supply was only sufficient at the time of the epidemic to give the quantity required for cleansing purposes. This was due to the drought during the previous summer season, resulting in as minute a rainfall as hitherto recorded. Under such circumstances, one could not be expected to carry out the "bath", or other similar treatments for the disease.

In the matter of diet for those patients, one had little choice. This was because all native patients were practically treated at Government expense, and in such cases, the diet is adequate and nutritious, although peculiar in our eyes. It consists/



sists of "mealie" meal for the most part. In this epidemic, it was indeed practically similar to the diet provided for convicts.

Fever, when high, was usually overcome by quinine in large doses - even to XXX grains thrice daily. Phenacetine was given for the headache in 15 grain doses.

In the only delirious case (No. 4), one dose of sedative was given (30 gr. Potassium Bromide and 20 of Chloral Hydrate) but this had little or no effect.

Morphia in  $\frac{1}{2}$  gr. doses, either by mouth or hypodermically, was tried in those with severe lumbar pain, but appeared to do little good.

Thirst, unfortunately, had to be borne. Ice could not be obtained, and even little milk could be got.

After the eruption was evident, little was necessary but to see that the patient took no liberties. He usually desired to go out-of-doors, and could not be kept from scratching to allay the irritation. Otherwise, nothing required to be done. For the itching, permanganate of potash in weak solution, was found useful, although carbolic soaps or lotions were even better. Otherwise for the eruption, nothing was done; also, unless the patient's/

patient's temperature rose high during the secondary fever (which was very rare) diet and comfort were alone attended to.

Much has been said in the past of the treatment of smallpox and allied diseases by light. As before stated, the patients were partly accommodated in tents and partly in an old hospital. Both did equally well, although into the tents, streamed a yellow light through the canvas. It has been claimed that red lights do infinite good in such cases, but no red light prevails in South Africa, unless at sunset.

In the suppurative or pustular stages, under ordinary conditions, nothing was done unless there was severe irritation. In this case, a sponging by a weak carbolic solution (1-100) was soothing. Even a piece of lint saturated with cold water allayed the suffering. Fever sometimes rose for a single night, but for this, nothing but Quinine was necessary. For the itchings of the palms of the hands and soles of the feet, a weak soda solution was tried, but only gave temporary benefit; and one could not be certain whether the effect was due to the water or the soda, for water alone appeared to give quite as good results.

During/

During convalescence, the usual bath recommended could not be given, but the natives delighted to rub themselves with olive or carbolic oil. This sufficed to remove the superficial crusts, but the deeper had to be dissected out, more especially from the soles of the feet and from below the nails - the latter giving much pain. Before leaving hospital, the patient was given new clothing and was seen to be thoroughly clean and if necessary, had a bath.

TABLE OF ALL CASES.

Total Cases	Age	Sex	Type		Recoveries	Mortality.	Per Cent.
53	Any	Equal	discrete	confluent	52	1	.5
			46	7			

In prophylaxis, vaccination is of undoubted value. The spread of the disease is checked almost immediately.

During this epidemic, I, personally, had 3942 vaccinations. Of these, the following table gives the results.

Total	Successful	Partially	Unsuccessful	% Successful
3942	3698	42	202	93

of/

Of those, all who had never been previously vaccinated were successful. On revaccination of the 202 unsuccessful, the table stood as below.

Total	Successful above 7 yrs.	Unsuccessful above 7 yrs.	Successful below 7 yrs.	Unsuccessful below 7 yrs.
202	68	9	1	124

The results are given in terms of 7 years, during which period the patient is supposed to have been rendered immune against Smallpox.

By partially successful in above table, the meaning is: such cases in which there develops an eruption without true vaccinia.

At this point, I must state that all the lymph used in vaccination, was obtained from the Grahams-town Institute under the superintendentship of Dr Edington. The results on all hands appeared excellent. Though each doctor in Beaufort West had his own method of vaccination, the per centage of successful cases was as high as those obtained by myself. Each method was different, but all appeared equally good in result. Personally, when vaccinating a large number of persons at once, and I frequently performed the operation on 100-200 within an hour or two, I always kept boiling carbolic oil in which to dip the vaccinating needle between each vaccination./

vaccination. If much pain occurred after vaccination, a piece lint saturated with carbolic oil was sufficient to alleviate the pain. Vaccinia in natives is exactly similar to that in whites and follows the same course. When local sepsis occurred (I had only one case) carbolic oil quickly cured it. In all cases, I always put three different marks on the patient if previously vaccinated, and four if not. In all cases, the patients were first prepared for vaccination by scrubbing with soap and water - an operation undoubtedly necessary, more especially among natives engaged in Railway employment.

What then is "Amass"? Is this a distinct disease, or simply an example of modified smallpox? As is well known, the influence of climate on smallpox bears an important relation. In tropical climes this is more evidently shown; but here again, the local conditions come into play. During the winter months, smallpox is undoubtedly of more frequent occurrence, while the rainy season is said to check the disease.

Even at home, such cases as "modified smallpox" occur, and to this type usually belong second attacks of the disease. The main differences are that in modified smallpox, the eruption occurs all over/



over the body within 12 hours of appearance of 1st papule, and is fully developed in three days. Most of the papules never reach a more developed stage and they differ in size and shape from true smallpox. Even if such papule go through the vesicular to the pustular stage, they are exceedingly few in number, and these usually dessicate unruptured.

Modified smallpox agrees with "Amass" in having fewer constitutional symptoms - the retention of appetite, lack of thirst, etc. Otherwise, it is different, and "Amass" must be said to be a malady of much longer duration than modified smallpox.

In the mildness of the attack, it differs greatly from true Variola Vera. The patients almost invariably feel "cured" once the period of invasion is over, even though they may have slight temperatures. It appears to be, in short, a modified Smallpox, not in the sense of the term as used in the disease in the Old Country, but in the fact that it is a true Smallpox apparently altered by climatic or meteorological factors.

Though the mortality in the epidemic was low, it does not necessarily follow, it always is so. From a small number like 53 cases, a true per centage/

age cannot be gauged, and it would require many more cases before a correct idea could be arrived at. I have, however, heard from many Colonial doctors that in all the epidemics they have seen, the mortality has been very slight, and never has reached the mortality figures said to occur in dark-skinned races. This is in my opinion due to previous vaccination. Most of the natives I have met with exhibit at least one well marked cicatrix from previous vaccination, and many have had more than once been vaccinated. Only in young children could one state that no vaccination appeared to have been carried out. The presence of such a condition is not due to carelessness on the part of public vaccinators, but more due to wanderings of the natives through the country. A family may wander about in an aimless fashion for months or years, living at times on the products of the Veldt, or at others on the charity of their neighbours. A second reason is, that children are often sent out to tend flocks, and are too far distant on the arrival of the vaccinator to be called home.

In connection with vaccination, it is of interest to note that I vaccinated all the natives who had suffered previously from the disease, "Amass", and/

and all were successful except one. I thus vaccinated 12 natives, 11 of whom developed the condition of true vaccination, showing the usual vesicular and pustular conditions. Of those twelve cases, the previous attack had occurred at varying periods. The earliest was 3 years before the date of my vaccination and the others ranged through 6, 10, 13, 21 to 40 years.

This condition has long been known to be far from rare. Jenner, in his third publication, "A continuation of Facts and Observations relative to the Variolae Vaccinae, or Cow-pox", states:- "Although the susceptibility of the virus of the cow-pox is for the most part lost in those who have had the smallpox, yet in some constitutions, it is only partially destroyed, and in others it does not appear to be in the least diminished. By far the greater number on whom trials were made, resisted it entirely; yet I found some on whose arms the pustule, from inoculation, was formed completely, but without producing the common efflorescent blush around it, or any constitutional illness; while others have had the disease in the most perfect manner."

It is usually stated, as a general axiom, that persons/

persons who are successfully vaccinated are immune against Variola for a period of seven years, and that those who are unsuccessfully vaccinated are naturally immune at that time. It is thus laid down that an individual should be revaccinated at the end of the above period. This, however, is incorrect. On revaccination, on failure on the first occasion of the 202 mentioned above, 69 showed a successful result. The first failure was not due to the patients rubbing off the lymph on leaving the surgery, as I detained all the patients with their sleeves rolled up to the shoulder till the lymph had dried in. The lymph, too, was the same as that which had been successful in others, for the contents of 20-30 tubes were mixed together in a watchglass, and all were done from the same supply. I attribute the failure on the first occasion to the accidental drawal of too much blood, and thus preventing the serum being absorbed properly even although rubbed into the incisions.

Of the unsuccessful, 124 had been vaccinated within 7 years previously. Of those 124, 98 were children under 5 years of age and these had been vaccinated at periods varying from 4 years before the date of my vaccination. Of the 9 unsuccessful in whom the last vaccination had taken place over

7 years before - 6 had been successfully vaccinated on two occasions and one on 3. All had excellent cicatrices.

In my own case, I had not been vaccinated for about 4 years previously. On the outbreak of the epidemic, I vaccinated myself in three places. All were successful - three distinct vaccination eruptions resulting. At the end of three weeks, by which time there was only a distinct redness on the arm over the site of the previous sores, I was again revaccinated to see what would happen. Again there was true and distinct vaccinia, although to a much less marked degree than formerly. There were typical papules on each site, which spread into the vesicular, passing through the pustular stages and terminating in a distinct scab, which in due course dropped off. Three weeks afterwards, I again endeavoured to vaccinate myself, but was entirely unsuccessful. Why the vaccination should have produced vaccinia on the second occasion, I know not. Could the amount of lymph used on the first occasion have been too small, or too weak, or was it that I was so susceptible that a second injection was necessary? If the latter, then one successful vaccination cannot be held to give the individual safe immunity. On the other hand, it does not mean/



mean that unsuccessful vaccination is immunity of the individual either. Indeed, all one can say is that vaccination, if carried out properly, not only lessens the susceptibility but, in cases of attack, renders the prognosis much more hopeful.

Dr J. C. Macraill called attention in the Sixth Report of the Royal Commission on Vaccination to the fact that many persons were especially susceptible to smallpox inoculation. In them, the true vaccination appears to be of possible production at any moment desired.

Dr Mudge, a Plymouth surgeon, states in his paper published in 1777 - "A Dissertation on Inoculated Small-pox" - that he was able to find out whether matter used was good or not by inoculating himself. Again, an Edinburgh doctor is stated to have kept a constant supply of serum ready for use by repeatedly inoculating his arm, from which he withdrew the quantity requisite for present necessity. Neither of these cases could, however, be said to have been liable to Small-pox.

From the above tables, it will be seen that the greatest successes were obtained in those previously unvaccinated. All showed immediate reaction to the vaccine in perfect form. Of the re-vaccinated, those most susceptible to the lymph, were/

were those who had not been vaccinated for a period of over 7 years. In my statistics, which are too numerous to give in an article like this, I observed that the degree of reaction corresponded with the number of years occurring between each vaccination. In this way, as each year passed by, the reaction to the lymph became greater, until one might state that after certain periods, a patient was as liable to the disease as if he had never been vaccinated. What this period is, is indefinite. In one, it might be months, while in another, it might be years. As it cannot be either, the process or the lymph that is at fault, one must consider it chiefly a personal equation, distinct in each individual.

Another remarkable feature of this disease is the frequency of cases of second attack. That three of 53 patients should have had the disease previously is a large, a very large, percentage. As stated above, the former attacks had taken place 8, 18 and 21 years previously. Second attacks, even at home, are by no means so infrequent as is sometimes supposed, and these are described as "Modified Small-pox". In the cases in South Africa, however, the patients in no way conformed with/

with this type and appeared to suffer from the same disease as those who had never been attacked. The disease ran its course of the usual duration, and the eruption in no way differed.

The reason for these second attacks is even more difficult to understand than why vaccination should, or should not, succeed; and if second attacks are so frequent, it is not surprising that vaccination should be so successful in those who had the disease at some earlier date.

One, indeed, wonders whether a previous attack of the disease (similar to the results obtained in vaccination) only gives immunity for a certain time, and not for life; and whether this period depends entirely on a personal factor, and not on the severity of the disease. Cases of a subsequent attack of the disease are becoming more frequent. Is this due to an increased susceptibility, or to a more perfect diagnosis?

Time must elapse before such a question can be settled. Among natives this question will be more readily answered, because not only are they more closely crowded together, but they are also under conditions which are in themselves predisposing.

In the "Old Country" a patient having suffered from  
a/

a particular disease would try to avoid it, and in a large population, the danger of infection is much less than it would otherwise be, for prompt measures would be taken to avoid the contagion. In this way, while two or three hundred cases of Small-pox might occur in a community at home, the population must be taken into account and therefore the percentage is trifling.

It must, then, be left to a future date to consider the why and the wherefore. In "Amass", although the disease is undoubtedly Small-pox, the above mentioned variations occur. At some future date, it may be proved that vaccination has so altered Small-pox, both at home and abroad, that the disease is changing. Can it be that vaccination, not only renders the course of the malady milder and the mortality less, but that it also causes an increased tendency to recurrence?

Had it been that from father to son, an immunity against small-pox was handed down, one might have expected the disease to have died out - so long has it been known to exist. But still such an immunity, as is well known from other diseases is not complete, although it may be an important agent in prognosis. One has only indeed, to look at the statistics/

statistics of this very disease during the introduction into an hitherto untainted locality to observe how great is the mortality.

Such questions one might ask, but the answers remain yet to time.

One peculiarity of this interesting disease, "Amass", is the fact of the immunity of white persons. I have known of native nurses attending daily to the children of white parents (the children unvaccinated), until those nurses have not only been known to be ill, but to be suffering from this disease. Not only could the incubative period be passed, but the eruption in some cases was developed. The children, however, never contracted the disease. Even the youngest of infants never showed any signs of developing "Amass". In this epidemic, no whites were attacked by the disease. All indeed, especially the Colonials, appeared to regard the epidemic more as a joke than anything else. They refused to be vaccinated, stated they had seen it before, and took no precautions against infection. They mixed, when possible, with the patients, from curiosity before the removal of them to hospital, and yet none were attacked. All over the country, I believe, a similar/



lar state of affairs prevails, but no one appears the worse. It appears as if vaccination gave indeed an increased immunity to those who have been vaccinated through several generations.

To sum up, there can be no doubt that the disease is that of small-pox modified by climate, and more than probably by the beneficial effects of vaccination. The course is milder, the mortality lower, and thus only can it be said to differ from true Variola Vera.

Concluding, in such a thesis as this, the difficulty is to know how much to give of a subject which, in the near future, will be so interesting. Much might be written on the subject of South African diseases, but even then much would have been left unwritten. One would like to take up more particularly, those native remedies which undoubtedly exert a curative action on disease. It is not surprising that the inhabitants of a country soon learn to use those remedies which nature has so closely placed at their disposal. Wherever a disease occurs, one might almost say one will find the remedy - and the only danger is in selecting the wrong agent. One would thus like to dwell on those native remedies - the plants used by "witch" doctors and "medicine" men - but one cannot do so here. In these cases, much may be done by faith, but there is no doubt that/

that many of the more important therapeutic remedies of the Pharmacopœia have been derived through watching the natives whom one is supposed to look down on and to despise. Their cures may appear simple - infusions and decoctions of herbs growing by their doors - but no one can doubt their efficiency.

Thus, for instance, one might dwell long on the South African natives' method of treating snake-bite. No one has more horror of, or is more exposed to, the effect of such a disaster. With them, remedies are sharp and prompt, and depend on the nature of the situation. If a "witch" doctor be at hand, his method is simple although inexplicable. For years he has been wearing a skull cap fitting tightly to his head, and which is made from the stomach of a newly killed sheep. This, he never removes until it appears to have set to the shape of his head. Into this, he allows all perspiration to saturate and into this he expectorates, and so a deposit accumulates which one might call a mass of human filth. If called promptly to a case of snake-bite, he will remove his headgear and scrape some of the internal mixture of grease and dirt from it. This he makes into a suitable bolus, which the patient immediately swallows. Whether this/

this acts by faith or not, I am unable to state, but I have the word of one of the best educated men in Cape Colony for stating that he saw a case of snake-bite, in which he expected death in a few minutes, recover. That the snake was a venomous one, he had no doubt. He, himself, had seen it immediately killed and identified it as one of the Cobra group. The patient, though much collapsed, was entirely better in a few days. The bite of a venomous snake can easily be differentiated from that of a non-venomous one, or a bite in which no venom has entered - for even the most deadly of snakes do not inject venom with each bite. A poisoned wound exhibits intense inflammation in the areolar tissue below the skin, although externally, nothing may be visible but the puncture holes.

Among Dutch farmers, on a bite from a snake being discovered, free incision is usually made through the skin in several places and of at least an inch or two long. As those accidents usually occur when out shooting, and no suitable remedies are at hand, the powder from a cartridge is extracted and placed over the incisions and ignited. A ligature is usually placed on the proximal side of the bite in the first place. The patient is then practically drenched with stimulant in any form, although/

although brandy is usually preferred. Dissecting out the areolar tissue and some of the sublying muscular fibre has been recommended by Dr Wall, but there is seldom a skilled surgeon at hand.

Much faith is laid on Permanganate of Potash and Carbolic acid applied locally as a remedy, but little good appears to accrue from its use. Ammonia is also locally used, but it is doubtful if beneficial; indeed, Sir Joseph Fayrer in his "Thantophidia of India" states it is absolutely useless.

The natives of Natal apply in such cases, a ligature and then make the sufferer take severe bodily exercise in the hope of producing a copious perspiration. On the other hand, in the Transvaal, the natives endeavour to procure the same copious perspiration by placing him in a pit in which there is a fire, covering him closely in skins and leaving nature to effect a cure.

Such methods might well be adopted by Europeans in cases where other remedies are not at hand, and though perhaps not always succeeding, they cannot do any harm in such as those in which death is unavoidable.

One treatment I should like to experiment with, but have never had the opportunity, is the use of nicotine/

nicotine. I have seen a man draw a straw through through his pipe stem, thus covering it with nicotine, and holding a vigorous venomous snake by the neck, draw it through its mouth. The result was instantaneous, the snake appearing to become paralysed at once. Whether it were dead or not, I must say I did not care to investigate, but to all appearances it was so. Inert, glazed eyes, etc., all pointed to death, but one hesitates to touch an animal - more especially if one has not been used to them.

My first attention was drawn to native remedies by a native coming to me and offering to sell the native method of curing all disorders of the intestines. Unwilling to trust the native's statement, I sent the plant to Cape Town to be identified. The report I received from that quarter was that it was undoubtedly the *Monsonia Ovata*. This drug has of recent years obtained much acknowledgment among European doctors in their treatment of dysentery. In the Army during the South African Campaign, many of the intestinal troubles were diagnosed as "dysentery". One cannot but believe that the disease was not dysentery when a small dose of castor oil and laudanum effected a complete cure; for had the disease/



disease been true dysentery, such remedies would only have alleviated the symptoms, and not cured them. Among South African natives their own remedy, the "*Monsonia Ovata*", has long been in use, but among Europeans, it has never given the results stated to accompany its use among the dark-skinned races.

That the cases diagnosed as dysentery are frequently not such, is after between two and three years' experience, my opinion. That the complaint is more of the nature of a sand colic is not to be doubted. The disease occurs in quarters in which sand storms are not infrequent, and true dysentery seldom occurs. The symptoms and signs are similar, but the *Amoebae* are never found. In this way, while many diseases gain a reputation for prevalence, they cannot be said to occur with the frequency stated. Complete observation must be made in every case, and true diagnosis rendered, to make treatment efficacious. I have known cases show every symptom and sign of true dysentery and yet, dysentery was absent. Diarrhoea and the passage of blood and mucus were frequent. Tenesmus was present, and still the whole might be attributed to the swallowing in food, or otherwise, of sand.

Of/

Of the value of native remedies for dysentery, one cannot but adhere to, and the cures affected among natives are marvellous, although they do not appear to give the same results in Europeans.

One has heard much about the so-called "Veldt sore", but this malady appears seldom to affect natives. I have had at one time three or four thousand natives under my charge, and never at any time had I a single case of true "Veldt sore". On the other hand, while with the military, I have seen two or three per cent of a regiment incapacitated owing to this disease. In my opinion, in the majority of cases, it is simply the case of septic ulcer, the men having no means of personal cleanliness through the absence of water. The application of boracic acid ointment rapidly cures it.

Many other native remedies could be given, but it is not within the scope of a small paper like this to mention them all, more especially where so many of them might be inefficacious. Still, one might say that in every country, there is much to be learnt from those who have been used to native remedies, and who have derived benefit from such. Only too frequently, one is apt to think of our modern remedies and to place them in the foremost position/

position; but still native customs should not be ignored and native remedies less so.

In conclusion, one might state that while despising those races as an inferior sect, we, the more educated, might derive much which would not only be effectual in the treatment of disease, but invaluable additions to our Pharmacopoeia. From the least in the universe much may be learnt, from the lowest information be gained, and yet we hesitate to gather from such our sources of knowledge. Let us hope that a day may dawn in which all mankind will unite at any rate, in the cure of disease. That disease is common to every race is well known, and while generation after generation may endeavour to destroy each other by all our means of modern warfare, let us trust that they will unite in their methods of curing disease, where the more informed may give more information to the less, and where in all, there will be one specific remedy for every individual disease. That such a millenium is every day becoming nearer and nearer is not to be doubted, and more and more is this becoming evident, - let us trust that this date is not far distant. To mankind in general, the advantage will be great and to each in particular, the result will be inestimable. And/

And thus, though man has done much to spread disease, to carry infection all over wide-spread areas, man will take with him, not only those remedies which will cure disease, but will do much to prohibit it.

B I B L I O G R A P H Y .

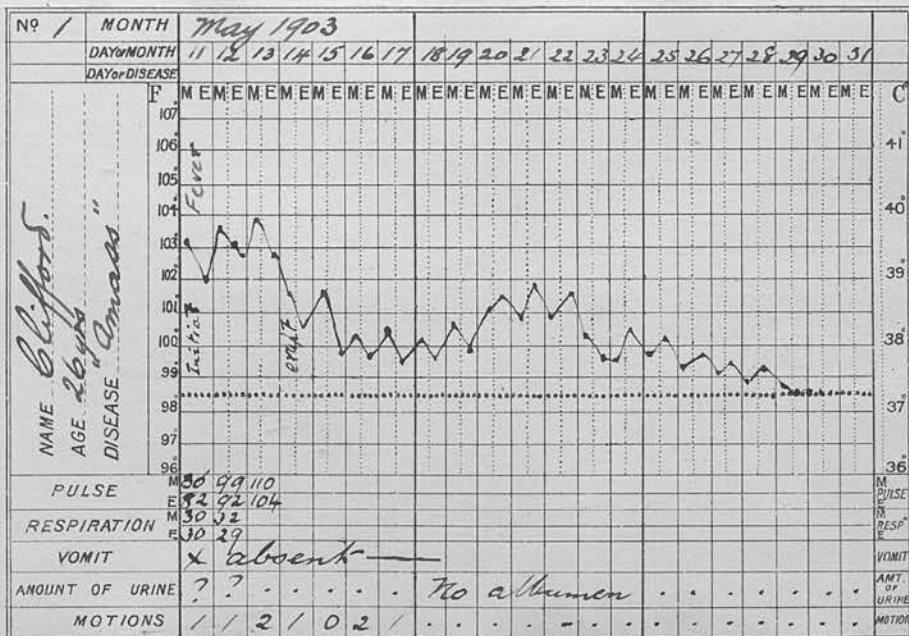
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"AMASS."

- Fig. 1: Patient, the first day of eruption, showing incipient papules.
- Fig. 2: Vesicular stage, 6th day of eruption, showing umbilicated vesicles.
- Fig. 3: Pustular stage, about the 10th day.
- Fig. 4: Sole of foot, showing dessicated nodule, about 20th day.
- Fig. 5: Cicatrices.



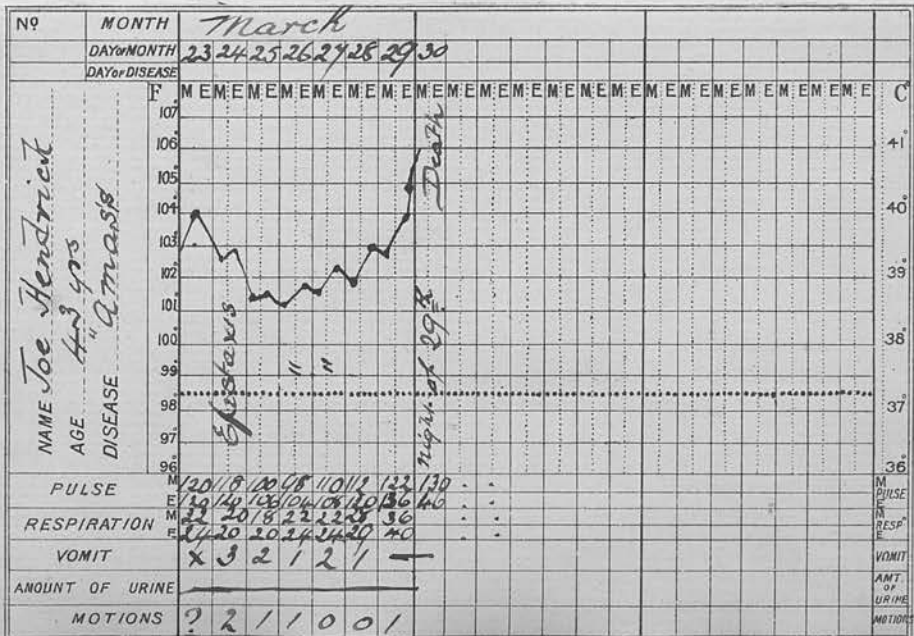
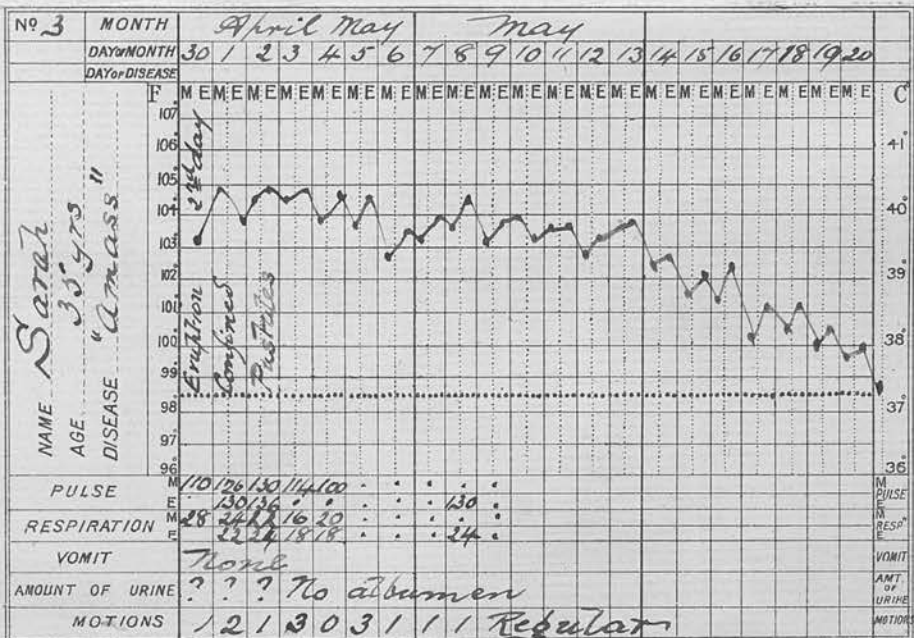
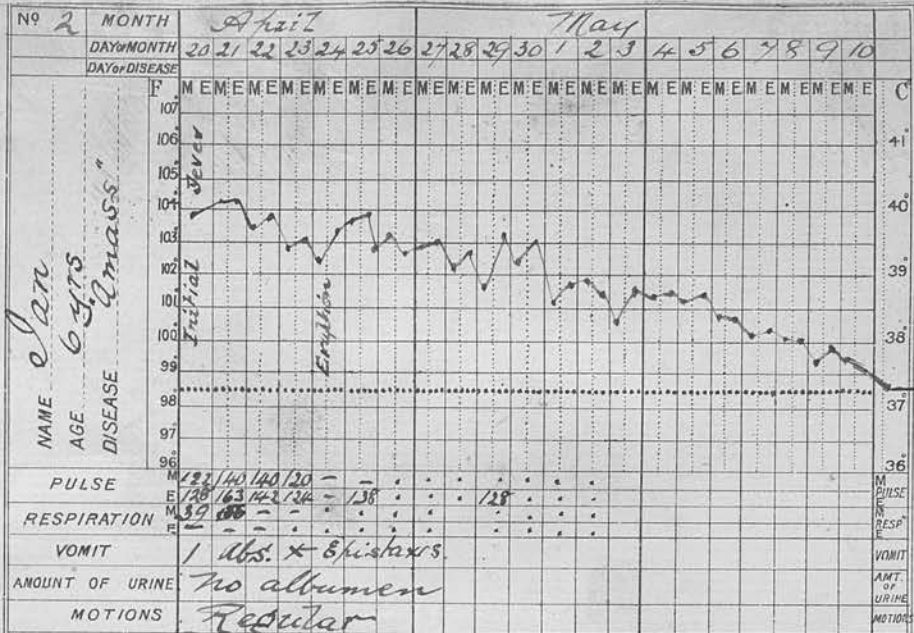




Fig. I.



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Fig. 2.



Fig. 3.





Fig. 4.

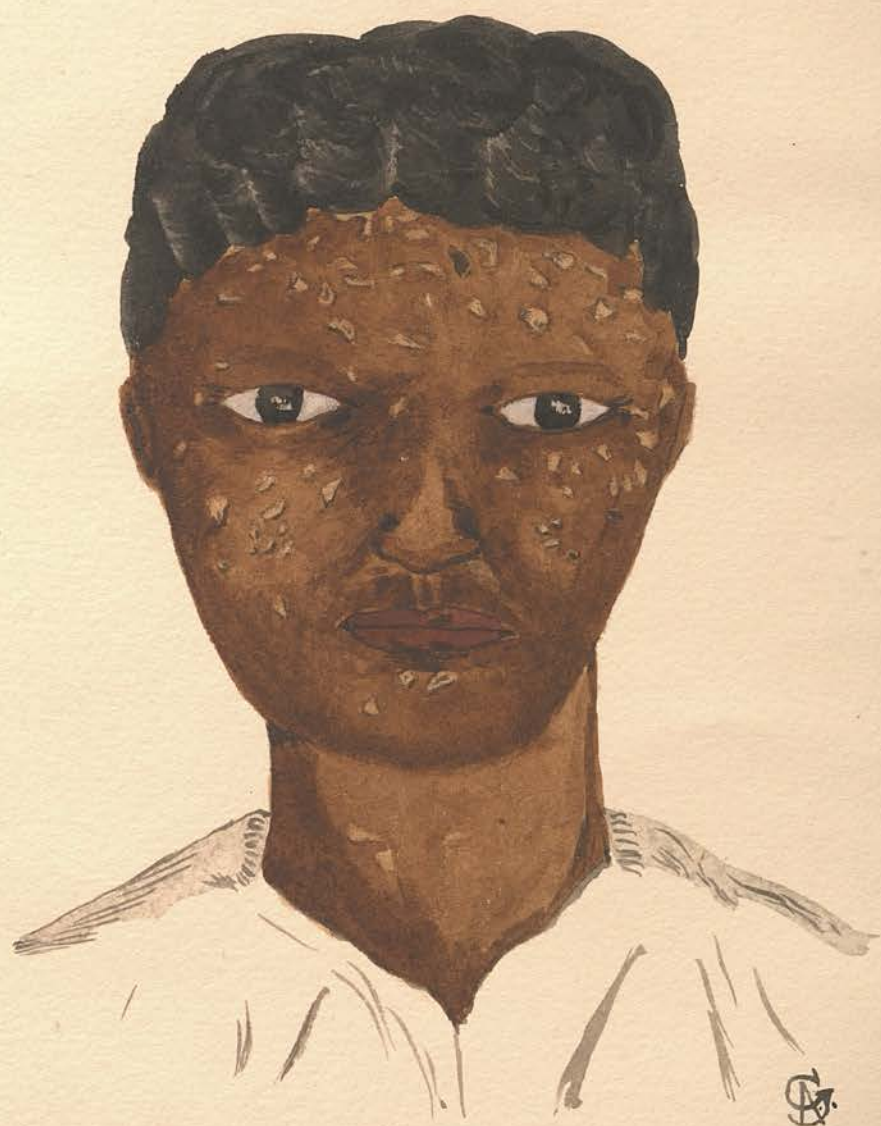


Fig. 5.